REMARKS

Claims 1-61 were pending at the time of the Office Action. Claims 1, 26 and 42 are amended. Claims 62-64 are newly added. No new matter is added. Accordingly, claims 1-64 are pending in the application.

Entry of Amendment Requested Without Request for Continued Examination

Applicants respectfully request that this amendment be entered. Although independent claims 1, 26 and 42 are amended and dependent claims 62-64 are newly added, the amendments to claims 1, 26 and 42 and the new claims relate to subject matter that was previously presented and examined.

As will be explained in more detail below, independent claims 1, 26 and 42 have been amended to recite features similar to features previously presented in independent claim 43.

Furthermore, dependent claims 62, 63 and 64 recite features similar to features previously presented in claims 1, 26 and 42, respectively.

As such, Applicants respectfully request that this amendment be entered.

Interview Summary

Applicants express appreciation to the Examiner (Ms. Patton) and the Primary Examiner (Mr. Evanisko) for the courtesy of the telephone interview held on November 19, 2008, with Applicants' representative, Norman Lee (Reg. No. 58,941). In the interview, claim 1 was discussed. More specifically, Applicants' representative proposed claim amendments to address the rejections of claim 1, based on 35 U.S.C. § 112, first and second paragraphs. It is believed that the Examiner's reaction was that the proposed amendments would overcome the § 112 rejections.

Claim Rejections Under 35 U.S.C. 112

Rejections Under 35 U.S.C. 112, First Paragraph

On page 2 of the Office Action, claims 1-42, 49-52 and 54-60 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Here, with respect to claims 1, 26 and 42, the Examiner stated that the phrases "wherein the power supply for each implantable sensing element is configured to supply power independent of the power supply for each other implantable sensing element" and "configured to supply power solely to the implantable sensing element of the plurality of implantable sensing elements" do not support in the specification. (See Office Action, pages 2-3.)

It is believed that the above-specified subject matter was described in the specification in such a way as to reasonably convey to one skilled in the art that Applicants, at the time the application was filed, had possession of the claimed embodiments of claims 1, 26 and 42.

However, to expedite issuance of this application as a patent, Applicants have amended each of independent claims 1, 26 and 42 to remove the above-specified subject matter. Because the above-specified subject matter has been deleted from each of claims 1, 26 and 42, it is believed that claim 1 (and its dependent claims 2-25, 49, 51 and 59), claim 26 (and its dependent claims 27-41, 50, 52 and 60) and claim 42 (and its dependent claims 54-58) fully comply with the requirements of 35 U.S.C. § 112, first paragraph.

Rejections Under 35 U.S.C. 112, Second Paragraph

On page 2 of the Office Action, claims 1-41, 49-52 and 59-60 were rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Here, with respect to claim 1, the Examiner stated that the word "individual" in the phrase "each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via an individual interconnect" was unclear.

It is believed that each of claims 1-41, 49-52 and 59-60, as previously presented, fully complies with the requirements of 35 U.S.C. § 112, second paragraph.

However, to expedite issuance of this application as a patent, Applicants have amended each of independent claims 1 and 26.

In more detail, independent claim 1 has been amended to recite in a relevant portion:

> . . . each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements . . . (Emphasis added.)

As such, it is believed that claim 1 and its dependent claims 2-25, 49, 51 and 59 fully comply with the requirements of 35 U.S.C. § 112, second paragraph.

Similar to claim 1, independent claim 26 has been amended to recite in a relevant portion:

> each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements . . . (Emphasis added.)

As such, it is believed that claim 26 and its dependent claims 27-41, 50, 52 and 60 fully comply with the requirements of 35 U.S.C. § 112, second paragraph.

Claim Rejections Under 35 U.S.C. 102 and 103

On page 4 of the Office Action, claims 1-4, 8, 9, 11-12, 26, 30, 31, 33, 42 and 55-58 were rejected under 35 U.S.C. 102(b) as being anticipated by Gord et al. ("Gord," U.S. Patent No. 5,999,848).

On page 6 of the Office Action, claims 5-7, 10, 13-25, 27-29, 32 and 34-41 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gord.

On page 8 of the Office Action, claims 43-54 and 59-61 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gord in view of Beranek et al. ("Beranek," U.S. Patent No. 4,608,986).

These rejections are respectfully traversed.

Independent Claim 1 And Claims Depending Therefrom

Claim 1 has been amended to recite features similar to features recited in claim 43. In more detail, amended claim 1 recites:

> A method of sensing multiple parameters, the method comprising:
>
> implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte; and
>
> reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,
>
> wherein a plurality of parameters are read from the implantable sensor at the single site, and
>
> wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value. (Emphasis added.)

With respect to claim 43, the Examiner acknowledged that Gord does not "teach implantable sensing element attached to an external controller independently via an interconnect." (Office Action, page 8.) However, the Examiner contended that Beranek supplies the features acknowledged to be missing in Gord. Further, the Examiner contended that it would

have been obvious to modify the device of Gord by including a parallel connection of sensors, as described in Beranek.

Applicants respectfully disagree with the above contentions. Here, Applicants respectfully submit that the teachings of Gord and Beranek are not sufficient to render claim 1 *prima facie* obvious because the proposed modification of Gord would change the principle of operation of Gord. (See MPEP, § 2143.01.)

Further, Applicants respectfully submit that it would not have been obvious to modify Gord as proposed by the Examiner, because the proposed modification would render Gord unsatisfactory for its intended purpose. (See MPEP, § 2143.01.)

Gord describes devices that are serially connected using a minimum number of conductors, e.g., two conductors, between connected device pairs. (See, e.g., Gord, col. 9, lines 2-6, and FIG. 2, which shows two conductors 14' and 16' between controller 20 and device 18a.) These conductors are for providing a common signal and return path for data and power signals. (See Gord, col. 6, lines 56-61.) Gord describes that the data may include biphasic data pulses that are applied **between** first and second line conductors. (See Gord, col. 4, lines 55-59.)

As an example of the application of the biphasic data pulses between the first and second line conductors, Gord describes a situation where a first pulse of a biphasic pulse pair is positive: a positive pulse is first received on LINE 1 relative to LINE 2. (See Gord, col. 19, lines 51-53.) As another example, Gord describes another situation where a first pulse of a biphasic pulse pair is negative: a negative pulse is first received on LINE 1 relative to LINE 2. (See Gord, col. 19, lines 51-53.)

Because the application of the biphasic data pulse requires application of pulses of a certain polarity to one line conductor **relative to** another line conductor, the operation of the configuration described in Gord requires more than one conductor, e.g., more than one conductor connected between the controller 20 and the device 18a, as shown in Gord's FIG. 2. Because

Gord requires more than conductor, Applicants respectfully submit that the proposed modification of Gord – i.e., to utilize an independent wire conductor (such as one of wire conductors 61, 62, 63, 64, as disclosed in Beranek) between controller 20 and device 18a – would change the principle of operation of Gord. As explained previously, Gord describes the application of biphasic phase pulses between more than one conductors.

Further, the proposed modification would render Gord unsatisfactory for its intended purpose of applying and detecting biphasic pulses. For example, if Gord were modified to utilize an independent wire conductor (such as merely one of wire conductors 61, 62, 63, 64, as disclosed in Beranek) between controller 20 and device 18a, it would not be possible to detect the application of a pulse to one conductor relative to another conductor. As such, the proposed modification of Gord would render Gord unable to apply and detect biphasic pulses.

At least for the reasons explained, it is believed that claim 1 is patentable over the cited art.

Claims 2-25, 49, 51 and 59 depend, either directly or indirectly, from claim 1. At least for this reason, it is believed that claims 2-25, 49, 51 and 59 are patentable over the cited art.

Independent Claim 26 And Claims Depending Therefrom

As amended, claim 26 recites:

> A method of evaluating a patient, the method comprising:
>
> implanting an implantable sensor in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte;

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements; and

evaluating the patient based on the output read from the at least one implantable sensing element,

wherein a plurality of parameters are read from the implantable sensor at a single site, and

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value. (Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 26 is patentable over the cited art.

Each of claims 27-41, 50, 52 and 60 depends directly from claim 26. At least for this reason, it is believed that claims 27-41, 50, 52 and 60 are patentable over the cited art.

Independent Claim 42 And Claims Depending Therefrom

As amended, claim 42 recites:

A method of sensing multiple parameters, the method comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each of the implantable sensing elements operable through electrical communication with an external controller via a respective one of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements; and

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site, and

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value. (Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 42 is patentable over the cited art.

Each of claims 54-58 depends directly from claim 42. At least for this reason, it is believed that claims 54-58 are patentable over the cited art.

Independent Claim 43 And Claims Depending Therefrom

As previously presented, claim 43 recites:

A method of sensing multiple parameters, the method comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller having a plurality of interconnects, each of the plurality of interconnects independently connected to a respective one of the plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte; and

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site,

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value, and

wherein the plurality of implantable sensing elements comprises a lactate sensing element measuring a parameter for blood lactate level, a blood oxygen saturation sensing element measuring a parameter for blood oxygen level, and a pH level sensing element measuring a parameter for pH level. (Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 43 is patentable over the cited art.

Each of claims 44-48, 53 and 61 depends directly from claim 43. At least for this reason, it is believed that claims 44-48, 53 and 61 are patentable over the cited art.

New Claims

Each of new dependent claims 62-64 recites: ". . . wherein each of the implantable sensing elements of the comprises a respective power supply of a plurality of power supplies, wherein the respective power supply of each of the implantable sensing elements is for powering the implantable sensing element." Support for these features can be found, for example, in paragraph [0032] on pages 7-8 of Applicants' specification.

New dependent claims 62, 63 and 64 depend directly from claims 1, 26 and 42, respectively. At least for this reason, it is believed that new dependent claims 62-64 are patentable over the cited art.

Concluding Remarks

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of

papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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